

Table 2.2
Drinking Water Supply Wells Threatened or Impacted by Grumman-Navy Plume
as of December 2011

Supplier	Plant Site	Well No.	Number of Wells	Capacity (MGD) ⁽¹⁾	Status
AQUA of NY	Seaman Neck	3 & 4	2	6.04	Impacted
	Demot	4, 5 & 6	3	7.82	Threatened
	Sunrise Mall	6, 7 & 8	3	9.06	Threatened
Bethpage	Plant 4	4-1 & 4-2	2	3.98	Impacted
	Plant 5	5-1	1	1.99	Impacted
	Plant 6	6-1 & 6-2	2	3.98	Impacted
Levittown (Town of Hempstead)	Wantagh Ave	?	1	1.78	Threatened
Massapequa	Northwest	4 & 5	2	3.98	Threatened
	New York Ave.	6 & 7	2	3.98	Threatened
	Sunrise Hwy	9	1	1.99	Threatened
	Northeast	1, 2R, 3 & 8	4	8.85	Threatened
South Farmingdale	Plant 1	1-2 & 1-3	2	3.98	Impacted
	Plant 1	1-4	1	1.99	Imminent threat
	Plant 2	2-2 & 2-3	2	3.56	Threatened
	Plant 3	3-1	1	1.99	Imminent threat
	Plant 4	4-1	1	1.78	Threatened
	Plant 5	5-1 & 5-2	2	3.98	Threatened
	Plant 6	6-1 & 6-2	2	3.98	Threatened
Total Wells Threatened or Impacted:			34	74.71	MGD
Total Wells with Wellhead Treatment (WHT):			9	19.97	MGD
Totals Wells with WHT planned or under construction:			2	3.98	MGD
Total Threatened Wells:			23	50.76	MGD
Notes: (1) - Authorized Capacity MGD - Million Gallons per Day					



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Table 3.2

Cost Summary Based on Time

(Present Value)

Option	2011	2012	2013	2014	2015	2016
Permanent Wellhead Treatment	\$112,499,776	\$115,467,997	\$118,514,533	\$121,641,449	\$124,850,866	\$128,144,961
Permanent Alternate Source of Water - Lloyd Wells (using existing Plant sites)	\$91,180,674	\$93,586,406	\$96,055,613	\$98,589,967	\$101,191,188	\$103,861,041
Permanent Alternate Source of Water - Purchase and import from regional systems	\$84,645,036	\$86,878,331	\$89,170,550	\$91,523,247	\$93,938,018	\$96,416,501
Transitional Source of Water - Magothy wells south of Sunrise Highway	\$94,951,449	\$97,456,671	\$100,027,991	\$102,667,154	\$105,375,948	\$108,156,213
Other measures - Investigation and proactive monitoring / Emergency Wellhead Treatment	\$17,481,810	\$17,943,054	\$18,416,468	\$18,902,373	\$19,401,097	\$19,912,981
Plume remediation	\$109,431,563	\$112,276,783	\$115,195,979	\$118,191,075	\$121,264,043	\$124,416,908

Notes:

Annual inflation rate = 2.60% (from 2004 to 2010)

* It should be noted that the Engineer News Record (ENR) documents the construction inflation rate to be as high as 12 % for the New York Metropolitan Area.

Source:

U.S. Department of Labor - Bureau of Labor Statistics (BLS)

CPI Inflation Calculator - <http://www.dol.gov/dol/topic/statistics/inflation.htm>

About the CPI inflation calculator: The CPI inflation calculator uses the average Consumer Price Index for a given calendar year.

This data represents changes in prices of all goods and services purchased for consumption by urban households (nationally).

This index value has been calculated every year since 1913. For the current year, the latest monthly index value is used.

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Table 3.1.4

Additional Time - New Wells South of Sunrise

New Magothy Well Summary - South of Sunrise Highway					
Category	Size	Number of Units	Unit Cost	Total	Notes and Comments
Well and Plant	2.0 MGD	9	\$4,163,000	\$37,467,000	18 MGD of total well capacity would be shifted south of Sunrise Hwy.
Iron Removal*	2.0 MGD	9	\$5,387,161	\$48,484,449	Iron removal treatment may be required and will be determined at time of test well pumping and sampling. May not be required at all sites.
Land Acquisition	2 acres	9	\$1,000,000	\$9,000,000	Very rough estimate. Further review and verification is required to confirm unit cost.
			TOTAL:	\$94,951,449	
* Unit cost is based on capital and O&M costs (refer to New Lloyd Supply Well Cost Summary for O&M cost data)					

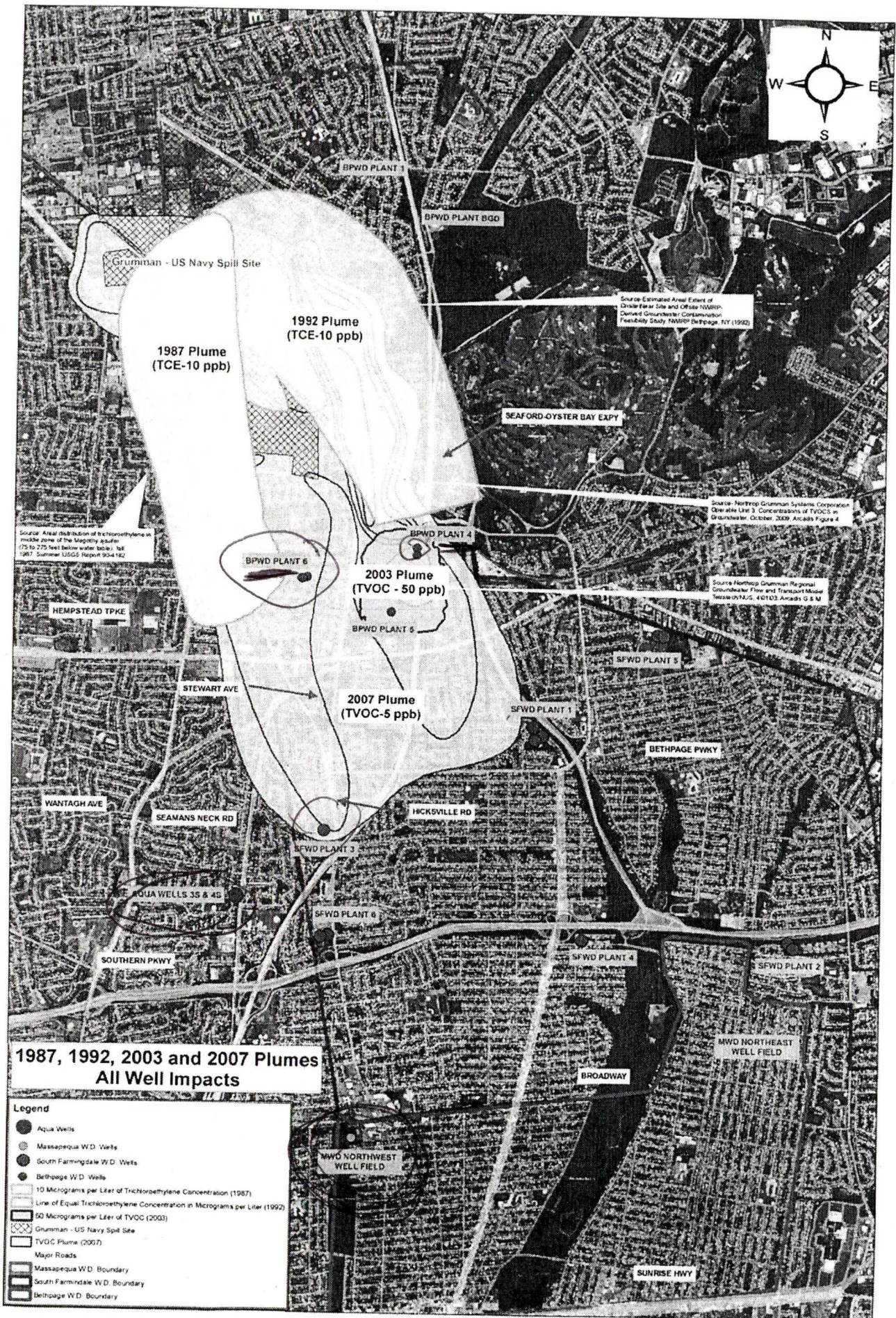
Source and back-up data:

[New Well Magothy Wells South of Sunrise- Updated draft](#)

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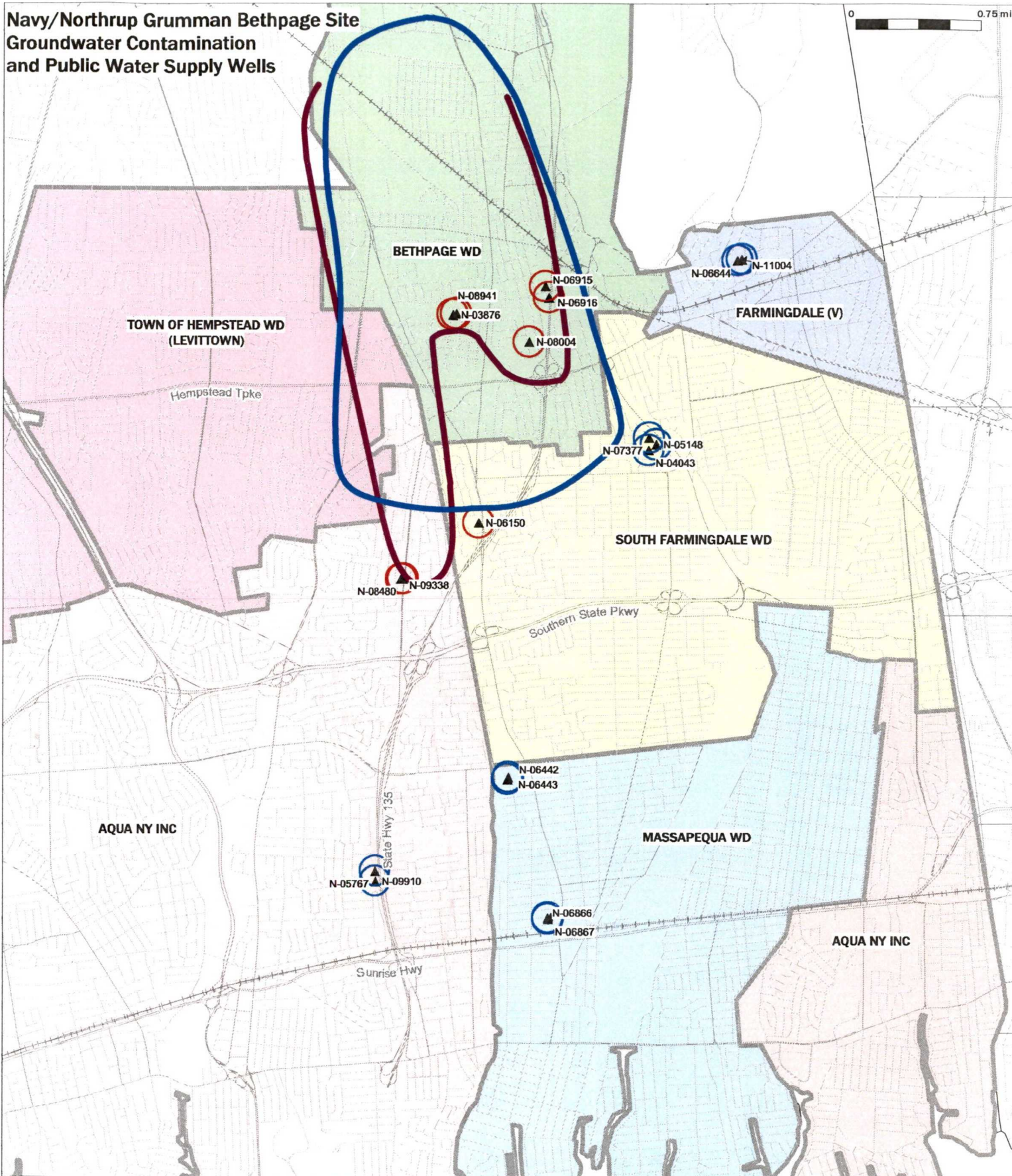
Table 3.1.3 Hydraulic Plume Containment

Task	Estimated Task Capital Cost
Remediation Well Drilling and pump (submersible)	\$4,740,000
Electrical (power and controls for remediation wells)	\$1,920,000
Interconnection piping between remediation wells	\$3,125,000
Transmission piping to remediation treatment system	\$9,000,000
Remediation Well Treatment System (2 stage - Air Stripping and GAC)	\$42,000,000
Treated water reinjection piping - transfer water to existing recharge basins	\$7,200,000
Treated water injection wells	\$6,840,000
Construction subtotal:	\$74,825,000
Engineering design, permits and construction admin.:	\$14,965,000
Inspection:	\$3,741,250
Legal:	\$935,313
Contingencies (20 %):	\$14,965,000
Grand Total - 2011:	\$109,431,563
Grand Total - 2015:	\$121,264,043



Navy/Northrup Grumman Bethpage Site Groundwater Contamination and Public Water Supply Wells

0 0.75 mi



Wells



Impacted



Potentially Impacted



PWS Well

TCE* 5 µg/L - Shallow

< 300 Feet

TCE* 5 µg/L - Deep

> 300 Feet

*Trichloroethylene



Disclosure: Geographic data represented on this map is based on locations provided in Safe Drinking Water Information System (SDWIS) and/or other spatial datasets maintained by the Department and/or other government agency. As such, the map may contain errors, and represents a generalized description of the area.

Produced by the Bureau of Water Supply Protection GIS, August 2011

NEW YORK
state department of
HEALTH

Center for Environmental Health
Bureau of Water Supply Protection

Table 1-2. Supply Wells in the Vicinity of the Bethpage Site

Well ID	Well Depth (feet bgs)	Rated Well Capacity (gpm)	Status of VOC Treatment at Wellhead
ANY # 4D (5767)	385	1,935	No
ANY # 6M (7414)	530	1,667	No
ANY # 7M (8603)	893	1,607	No
ANY # 3S (8480)	680	2,100	In progress
ANY # 5D (8837)	680	1,154	No
ANY # 4S (9338)	650	2,100	In progress
ANY # 6D (9910)	780	1,667	No
ANY # 8M (10,863)	685	1,879	No
Well # 4-1 (BWD-6915)	608	1,400	Yes
Well # 4-2 (BWD-6916)	611	1,400	Yes
Well # 5-1 (BWD-8004)	740	1,400	Yes
Well # 6-1 (BWD-3876)	386	1,400	Yes
Well # 6-2 (BWD-8941)	775	1,200	Yes
Well # 4 (MWD-6442)	618	1,400	No
Well # 5 (MWD-6443)	825	1,400	No
Well # 6 (MWD-6866)	626	1,400	No
Well # 7 (MWD-6867)	492	1,400	No
Well # 9 (MWD-13,338)	645	1,400	No
Well # 1-2 (SFWD-4043)	382	1,200	Yes
Well # 1-3 (SFWD-5148)	369	1,200	Yes
Well # 1-4 (SFWD-7377)	758	1,400	No
Well # 3-1 (SFWD-6150)	612	1,400	In progress
Well # 4-1 (SFWD-6148)	566	1,200	No
Well # 6-1 (SFWD-8664)	610	1,400	No
Well # 6-2 (SFWD-8665)	560	1,400	No
Total All Wells		37,109	
Total Wells Without Treatment		22,309	